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THE LIGHT

THAT STARTED SPORTS
AT NIGHT





Floodlighted Hockey Rink
at Union College



Lighted Race Track in
New Orleans

All Photographs in This Publication Are Unretouched



THE LIGHT THAT STARTED SPORTS AT NIGHT

UNTIL 1923, the night illumination of athletic fields was confined to a few lights—of low intensity and placed almost at random. With these makeshifts, practice was carried on after dark, so far as the limitations of visibility permitted.

On August 23, 1923, a scientific floodlighting system was used for the first time at the athletic field of the General Electric Company, Lynn, Mass. It was there that night sports by incandescent floodlighting were inaugurated with a baseball game on an illuminated diamond.

In September of the same year, General Electric floodlighted the athletic field of the Edison Electric Illuminating Company of Boston. A six-inning game was played to a tie score and without an error. This conspicuous accomplishment received much favorable public notice and immediately began to interest athletic officials and directors throughout the country.

In October, the projectors were rearranged on the General Electric athletic field for the illumination of football games and soccer. The first important athletic event of this kind was played on this field, and was witnessed by five thousand people.

The experience gained through this installation was of value in the subsequent lighting of the Philadelphia Municipal Stadium with G-E Novalux floodlighting projectors. Here, football games, boxing matches, and track events are as successful at night as by daylight.

Since that time, a number of football and baseball fields have been floodlighted and similar provision has been made for other outdoor sports at night; and each installation has added to the popularity, among both players and spectators, of this substantial promotion of athletic interests.

In addition to football and baseball fields, the advantages of floodlighting have been extended to swimming pools, tennis courts, cinder tracks, hockey rinks, shooting ranges, and golf courses; and in every case, this modern illumination has received the hearty praise and indorsement of athletic associations, coaches, and directors.

Once a field is floodlighted, night games can be scheduled regularly, and an opportunity for recreation is offered to thousands who cannot attend such events during the day. As a result, gate receipts are materially increased and contribute to defraying the installation costs of the electric equipment. Practice is no longer restricted to daylight hours, and the attendance and participation of the student body is promoted without interfering with class duties. In this way, an opportunity is offered for the playing of a larger number of intramural and interclass games which may be scheduled after dark.

G-E Novalux projectors are scientifically designed and can be adjusted in order to meet the special requirements of the field and the nature of the sport. They give uniform and correct intensity on the ground and in the air and there is an entire absence of glare and shadow in the playing area. Players and spectators, as well as the referee or umpire, can follow every play as easily as in daylight games.

Our illuminating engineers have made an exhaustive study of floodlighting for athletic fields and other places of outdoor recreation. The facilities of the Illuminating Engineering Laboratory of the General Electric Company are always available to you through the lighting specialists of the G-E sales office in your district.



The First Regularly Scheduled League Baseball Game Played at Night



One of the Six Floodlighting Towers

ON THE night of May 6th, 1930, 12,000 fans jammed the field of the Des Moines Club, Western League, and watched the home team down Wichita, 13 to 6.

That game deserves a full page in baseball history. It was the first regularly scheduled league game played at night. And it was a great success.

At nine the game started. The field, floodlighted by 146 G-E Novalux projectors, was a segregated section of daylight. The ball, in the air or on the ground, was conspicuously visible. And the crowd—this season's weekly attendance has averaged about 200 per cent more than last year.

Generally expressed, the expert opinion was that floodlighting will revolutionize professional baseball; that it will bring out crowds who can't go in the afternoon; and that it will reestablish baseball as a consistent profit-maker by fitting it into America's amusement hours.

Des Moines plans to play all its home games, except Sunday games, at night. And the attendance since the first game proves that floodlighting is a permanent innovation in our national pastime.



Grant Football Field at Georgia Tech Floodlighted with G-E Novalux Projectors

COACH W. A. Alexander of Georgia Tech commented on the installation of G-E Novalux floodlighting units on Grant Field, as follows:

"Passing, kicking, and running to a five-touch-down score, the varsity and its reserves demonstrated that night football could be played well on Grant Field, despite bad weather. The first practice game by floodlights was held on Monday, September 30th, at 5:30. There was a drizzling rain; yet a crowd of approximately 5,000 people gathered. The prospect of a scrimmage at night drew double the number that had ever attended such a game during the day. Visibility was almost perfect, in spite of the drizzle, and the fact that night had not yet fallen. As it grew darker, visibility improved. Players could be recognized as well as in the daytime. They kicked and passed smoothly. They handled the wet ball with no more fumbling than would have occurred in daylight. The lights did not seem to affect their sense of distance at all."

The lighting system at Georgia Tech is so arranged that the stands are also illuminated.



Day View of Floodlighting Towers



The Dempsey-Tunney Championship Bout, Municipal Stadium, Philadelphia



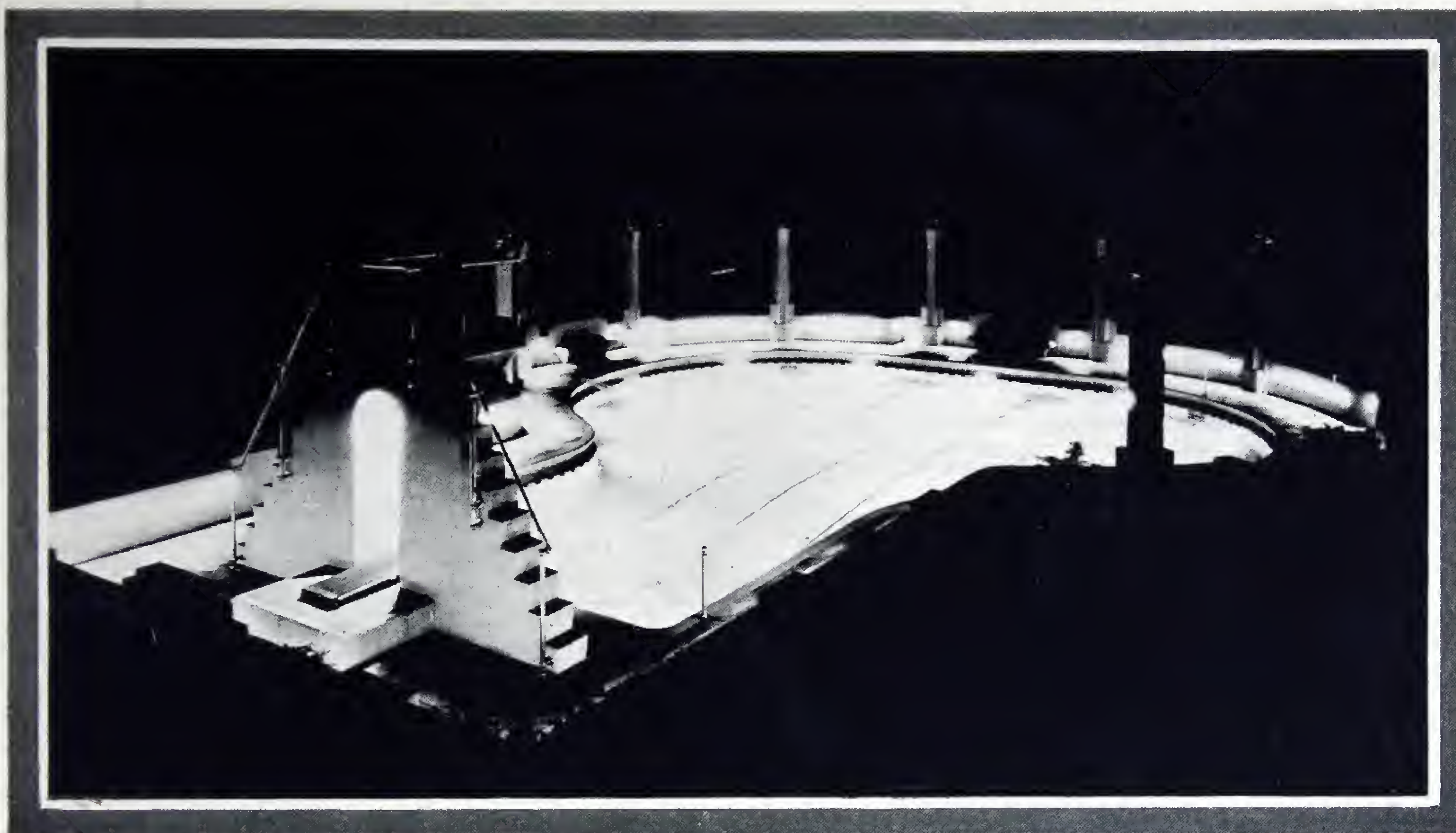
One of the Ten Floodlighting Towers

G-E Novalux floodlighting projectors were installed at Municipal Stadium, Philadelphia, in 1926. One of the first major events to take place under this lighting was the Dempsey-Tunney championship bout held in September of that year.

The floodlighted area of this field is illuminated without glare or shadows, to an intensity of seven foot-candles—light equivalent to that of 300 full moons.

The stadium field is 840 feet long and 350 feet wide and is lighted from 10 batteries of Form L-22 G-E Novalux projectors, equipped with 1500-watt, 110-volt MAZDA C lamps, a total of 192 units. The towers rise approximately 120 feet above the level of the field; two are located at the northeast and northwest corners of the field, and eight are placed symmetrically along the stadium rim, 200 feet back from the playing field.

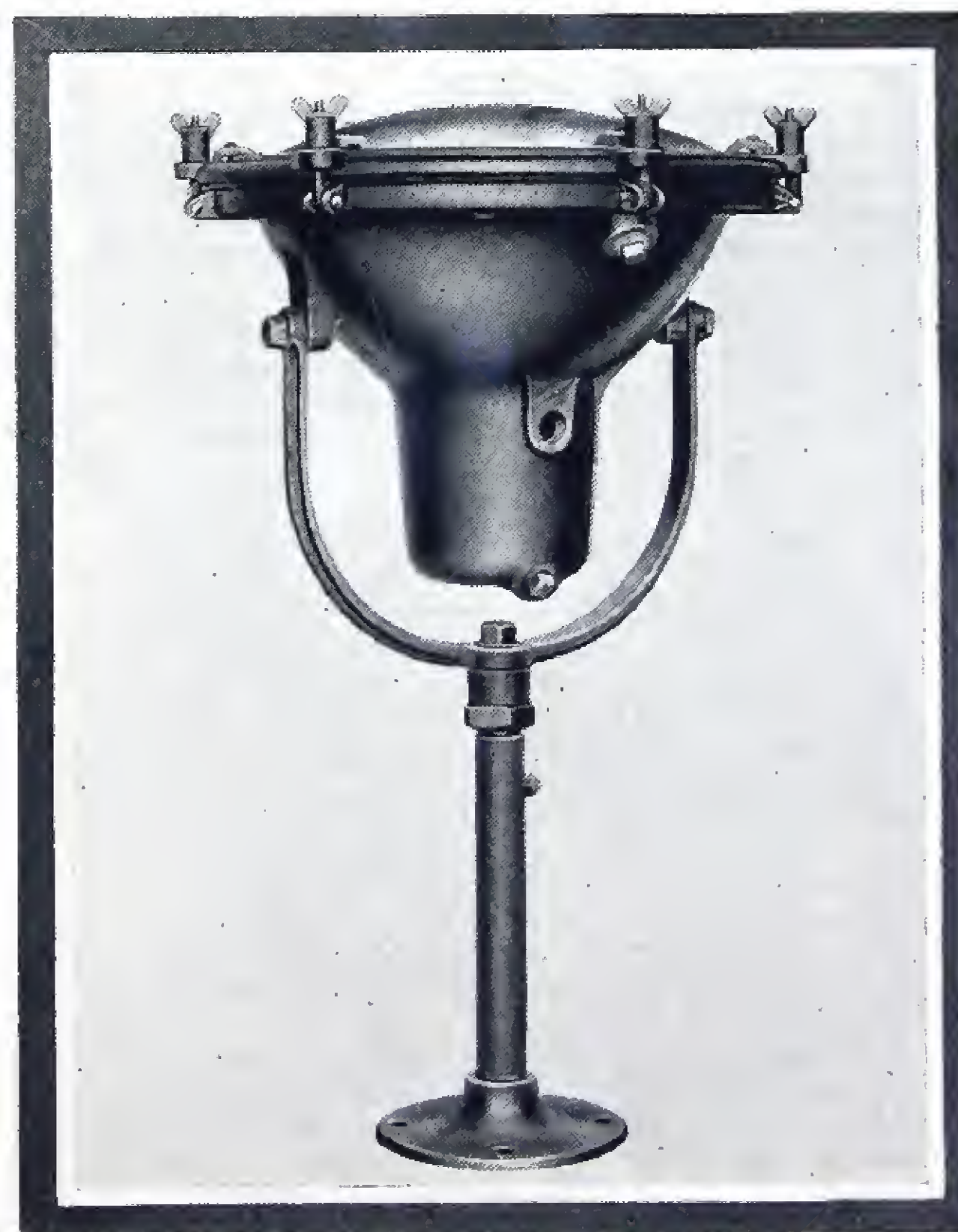
The football games, boxing matches, and track meets held on the Philadelphia Stadium Field after dark have been pronounced by athletes and spectators alike "as good as in the daytime."



Swimming Pool at Blythefield Country Club, Grand Rapids, Michigan, Illuminated under Water with G-E Novalux Submersible Projectors

THE method of illuminating outdoor swimming pools by means of floodlighting projectors mounted high above the surface of the water has proved to be satisfactory in a great many instances. However, much of the light directed upon the pool by this method is reflected upward by the surface of the water so that the water is likely to appear deep, dark, and unattractive.

On the other hand, recent developments of equipment for the underwater illumination of swimming pools (either indoor or outdoor) make possible excellent lighting throughout all parts of the pool. Special types of Novalux projectors have been designed for this purpose. The submersible types are usually mounted in specially constructed niches along the sides of the pool and about a foot below the water line. If the lighting is planned before the pool is constructed, the most satisfactory method is to provide a "dry niche" or tunnel around the outside of the pool. The projectors are then mounted so that the light passes through water-tight windows into the pool.



G-E Novalux Submersible Projector



Trap-shooting Range of Altamont (N. Y.) Gun Club, Floodlighted with G-E Novalux Projectors



G-E Novalux Projectors at Altamont Gun Club

CONFINED no longer to week-ends and early evenings, that ancient, man's game, trap shooting, is growing more popular each year.

There's more fun shooting at night, many sportsmen assert. They can see better; they can follow their shots better.

When a bird flies from the trap it shimmers in the light, clearly outlined against the black background. When hit, it bursts like a miniature shell. When missed—well, the gunner knows how and why he missed. He can see the shot as it slides by the bird—under or over or to one side—and can thus determine where his next should go.

Eight projectors are usually required for one trap. They can be mounted wherever convenient, as shown in the illustration or on poles or ornamental standards.

Skeet shooting at night is also becoming popular. Several gun clubs with skeet ranges have lighted them and reported increased attendances and memberships.



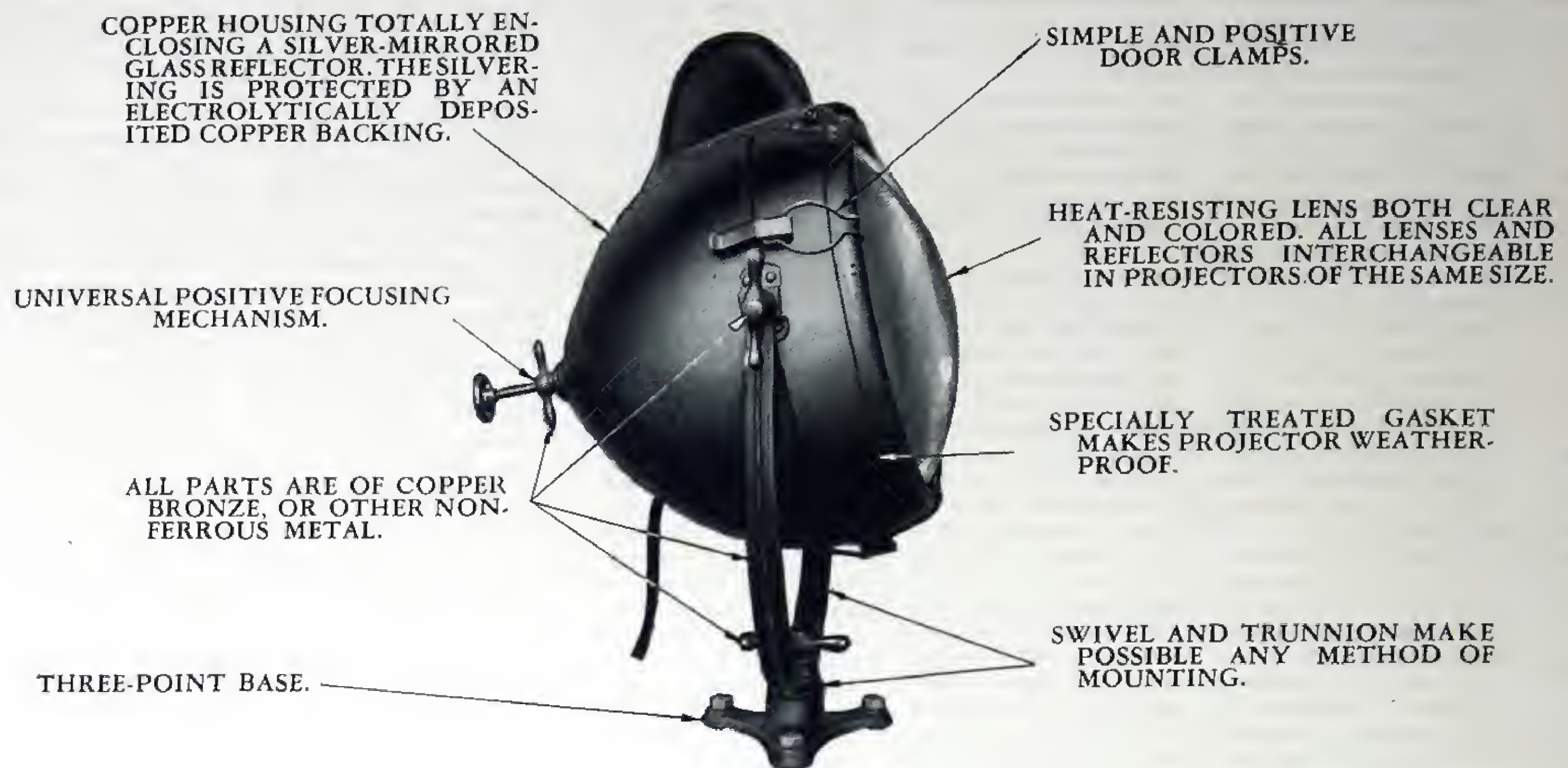
Putting Green, Illuminated by G-E Novalux Projectors

MINIATURE golf courses, putting greens, and ranges can readily be made available for night playing by proper illumination.

In Birmingham, Alabama, the floodlighting of an 18-hole miniature links made it possible for as many as 500 people to play the entire course during one evening. At Cleveland, Ohio, G-E Novalux floodlighting projectors are used to illuminate a practice range. The players stand in specially constructed individual "booths" of which there are approximately forty. Each booth is open on the side toward the illuminated fairway and the players drive out an unlimited supply of balls continuously for fifty minutes. At the end of this time, there is a ten-minute interval to allow the caddies to collect the balls. In connection with this driving range, there are also an 18-hole putting green and a 9-hole miniature course. These "courses" are well patronized every night. In fact, the daylight visibility provided by the proper installation of G-E Novalux floodlighting projectors has met with enthusiastic approval by professionals as well as amateurs.



Close-up of a Floodlighted Tee



Side View of Type L-31 Projector

Advantages of G-E Floodlighting Service

1. General Electric floodlighting equipment is designed by illuminating engineers of wide experience and years of training.
2. General Electric maintains a large illuminating engineering laboratory at Schenectady, devoted solely to the study of lighting problems.
3. This engineering personnel, with its extensive training and unrivaled laboratory facilities, has developed complete plans and specifications for every type of outdoor floodlighting. These are available to G-E representatives in solving any problem of illuminating athletic fields, for baseball, football, and other sports.
4. Any special problems are handled immediately by the laboratory engineers, and individual recommendations on these problems are sent out to representatives in the field.
5. General Electric equipment is outstanding from a viewpoint of illuminating effectiveness as well as from that of design, construction, and materials used.
6. General Electric has prepared a complete line of all the miscellaneous equipment for floodlighting the various types of outdoor sports. These include towers, wire and cable, switches, transformers, and projectors, and are prepared so that contractors or ultimate purchasers may be able to determine at a glance the complete equipment necessary and order all of this apparatus from one source.
7. General Electric has a national organization of commercial offices, warehouses, and service shops, so that the customer can feel that he is in close contact with the manufacturer, regardless of where his installation is made. By this means we can provide for quick servicing, replacement of parts, and continuity of operation.
8. There is a General Electric specialist in the floodlighting of athletic fields available in every district, who will keep in touch with the installation at all times.

Construction of the Projector

1. The projector is built of nonferrous material throughout. This construction prevents rust and corrosion.
2. A silvered-glass reflector of the highest possible efficiency redirects the light beam in the most effective manner. This type of reflector is used because it is the best commercial reflecting surface known. It possesses the highest coefficient of reflection that can be commercially obtained and satisfactorily maintained.
3. The projectors are designed for minimum depreciation. An electrolytically deposited copper coating protects the exposed surface of the silvering. This surface is further guarded against depreciation by a special backing, developed in the General Electric laboratories.
4. The projector is totally enclosed, having a glass lens to protect the reflector from the accumulation of dust and dirt rising from the field.
5. The glass lens in front of the projector also protects the hot bulb from sudden gusts of rain and flurries of snow. A single drop of water coming in contact with the hot bulb will often cause breakage instantly.
6. Glass lenses, differing in optical design, but arranged for interchangeable mounting in the projectors, if used in conjunction with the properly designed reflector, permit 100 per cent control of the light beam.
7. The flexible swivel-and-trunnion adjustment facilitates mounting of the projectors to position. The three-clamp construction of the door permits easy opening and insures positive gasketing when it is closed.
8. The optical design of the totally enclosed unit permits mounting near the field or in back of the grandstand, at a greater mounting height. The method gives a comparable light distribution even though the units are located a considerable distance back from the field.
9. The projector with the enclosed glass front also makes it possible to direct a spread of light upward without exposing the reflector or bulb to adverse weather conditions. This upward flow of light is essential in making the ball visible at all times.

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